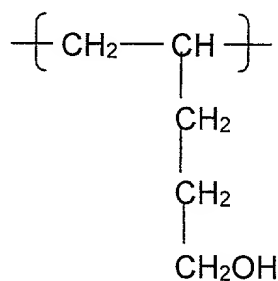


CLAIMS

What is claimed is:

1. A hydroxylated poly(vinyl chloride) composition comprising:
a poly(vinyl chloride) having at least one repeat unit of the formula

5



10

per polymer chain.

15

2. A hydroxylated poly(vinyl chloride) composition according to claim 1,
wherein the degree of polymerization of said poly(vinyl chloride) is from about 100
to about 1,500.

20

3. A hydroxylated poly(vinyl chloride) composition according to claim 1,
wherein said poly(vinyl chloride) is a homopolymer of vinyl chloride or chlorinated
poly(vinyl chloride), or a copolymer thereof, or a blend of a poly(vinyl chloride)
homopolymer or copolymer and a chlorinated poly(vinyl chloride) homopolymer or
copolymer.

25

4. A hydroxylated poly(vinyl chloride) composition according to claim 2, wherein said poly(vinyl chloride) is a homopolymer of poly(vinyl chloride) and wherein the number of said hydroxyl terminated repeat groups is from 1 to about 3.

5

5. A graft copolymer derived from the hydroxylated poly(vinyl chloride) composition of claim 1, containing at least a pendant polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

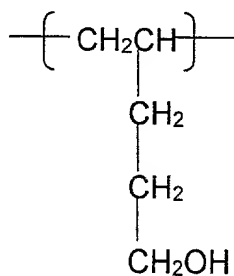
10

6. A graft copolymer derived from the hydroxylated poly(vinyl chloride) composition of claim 4, containing at least a pendant polyester, polycarbonate, polyurethane, polyether, or polyamide, or combinations thereof.

15

7. A poly(vinyl chloride) composition comprising:
the reaction product of an allylated poly(vinyl chloride) polymer, a boron containing compound, and a hydroxyl forming compound, said reaction product having at least one poly(vinyl chloride) having at least one

20



25

repeat unit per polymer chain.

8. A poly(vinyl chloride) composition according to claim 7, wherein the degree of polymerization of said poly(vinyl chloride) is from about 100 to about 1,500.

5

9. A poly(vinyl chloride) composition according to claim 8, wherein said boron containing compound is $H_3B \cdot THF$ or 9-borabicyclo[3,3,1]nonane, and wherein said hydroxyl forming compound is H_2O_2 .

10

10. A graft copolymer derived from the poly(vinyl chloride) of claim 7 containing a pendant polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

15

11. A graft copolymer derived from the poly(vinyl chloride) composition of claim 7 containing a pendant polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

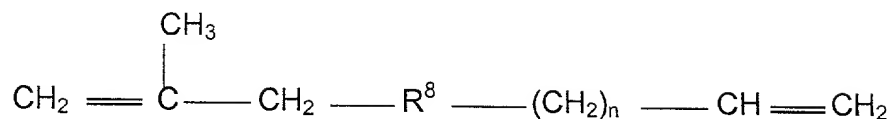
20

12. A poly(vinyl chloride) composition comprising:
the reaction product of a poly(vinyl chloride) and at least one diene having a total from about 4 to about 18 carbon atoms.

25

13. The poly(vinyl chloride) composition according to claim 12, wherein

said at least one diene has the formula:



wherein R^8 is an alkylene having from 0 to about 2 carbon atoms, and wherein n is an integer from about 0 to about 10.

14. The poly(vinyl chloride) composition according to claim 13, wherein said at least one diene is 2-methyl-1,5 hexadiene.

15. The poly(vinyl chloride) composition according to claim 12, wherein said at least one diene is grafted on the backbone of said poly(vinyl chloride), wherein said at least one diene is an oligomer having from about 1 to about 20 repeat groups, and wherein the number of said grafted oligomers per poly(vinyl chloride) chain is from 1 to about 20.

16. The poly(vinyl chloride) composition according to claim 15, wherein said repeat groups of at least one diene oligomer have an unsaturated end group.

17. A hydroxylated poly(vinyl chloride) composition comprising:
a poly(vinyl chloride) having at least one pendant oligomer per poly(vinyl chloride) chain, said oligomer derived from a diene having from 4 to 18 carbon atoms, and said oligomer being hydroxyl terminated.

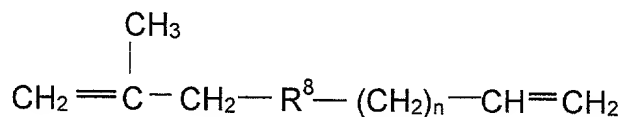
18. A hydroxylated poly(vinyl chloride) composition according to claim 17, wherein said composition comprises from about 1 to about 20 of said oligomers per said poly(vinyl chloride) chain.

5 19. A hydroxylated poly(vinyl chloride) composition according to claim 18, wherein the degree of polymerization of said poly(vinyl chloride) is from about 100 to about 1,500, and wherein said oligomer comprises from 1 to about 20 repeat groups.

10 20. A hydroxylated poly(vinyl chloride) composition according to claim 19, wherein said poly(vinyl chloride) is a homopolymer of vinyl chloride or chlorinated poly(vinyl chloride), or a copolymer thereof, or a blend of a poly(vinyl chloride) homopolymer or copolymer and a chlorinated poly(vinyl chloride) homopolymer or copolymer.

15 21. A hydroxylated poly(vinyl chloride) composition according to claim 19, wherein said poly(vinyl chloride) is a homopolymer of poly(vinyl chloride).

20 22. A hydroxylated poly(vinyl chloride) composition according to claim 19, wherein said oligomer is derived from a diene having the formula



where R⁸ is an alkylene having from 0 to about 2 carbon atoms, and wherein n is an integer from 0 to about 10.

23. A reaction product of a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or polymer forming monomers thereof with the poly(vinyl chloride) composition of claim 17.

24. A reaction product of a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or polymer forming monomers thereof with the poly(vinyl chloride) composition of claim 22.

25. A graft copolymer derived from the poly(vinyl chloride) composition of claim 17 containing a pendant polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

26. A graft copolymer derived from the poly(vinyl chloride) composition of claim 22 containing a pendant polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide or combinations thereof.

27. An epoxylated poly(vinyl chloride) composition comprising:
a poly(vinyl chloride) having at least one pendant oligomer per poly(vinyl chloride) chain, said oligomer derived from a diene having from 4 to 18 carbon atoms, and said oligomer having an epoxy group.

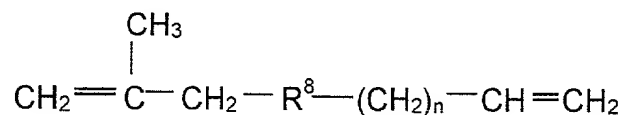
28. An epoxylated poly(vinyl chloride) composition according to claim 27, wherein said composition comprises from about 1 to about 20 of said oligomers per said poly(vinyl chloride) chain.

29. An epoxylated poly(vinyl chloride) composition according to claim 28, wherein the degree of polymerization of said poly(vinyl chloride) is from about 100 to about 1,500, and wherein said oligomer comprises from 1 to about 20 repeat groups.

30. An epoxylated poly(vinyl chloride) composition according to claim 29, wherein said poly(vinyl chloride) is a homopolymer of vinyl chloride or chlorinated poly(vinyl chloride), or a copolymer thereof, and or a blend of a poly(vinyl chloride) homopolymer or copolymer and a chlorinated poly(vinyl chloride) homopolymer or copolymer.

31. An epoxylated poly(vinyl chloride) composition according to claim 29, wherein said poly(vinyl chloride) is a homopolymer of poly(vinyl chloride).

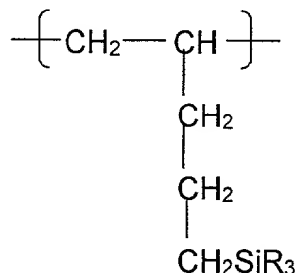
32. An epoxylated poly(vinyl chloride) composition according to claim 27, wherein said oligomer is derived from a diene having the formula



where R⁸ is an alkylene having from 0 to about 2 carbon atoms, and wherein n is an integer from 0 to about 10.

33. The reaction product of a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or polymer forming monomers thereof, with the poly(vinyl chloride) composition of claim 1.

34. A hydrosilylated poly(vinyl chloride) composition comprising:
a poly(vinyl chloride) having at least one repeat unit of the formula



wherein each R, independently, is a linear or branched alkyl having from 1 to 10 carbon atoms.

35. A hydrosilylated poly(vinyl chloride) composition according to of claim 1, wherein the degree of polymerization of said poly(vinyl chloride) is from about 100 to about 1,500.

36. A hydrosilylated poly(vinyl chloride) composition according to claim 1, wherein said poly(vinyl chloride) is a homopolymer of vinyl chloride or chlorinated poly(vinyl chloride), or a copolymer thereof, or a blend of a poly(vinyl

chloride) homopolymer or copolymer and a chlorinated poly(vinyl chloride) homopolymer or copolymer.

37. A hydrosilylated poly(vinyl chloride) composition according to claim
5 35, wherein said poly(vinyl chloride) is a homopolymer of poly(vinyl chloride) and wherein the number of said silyl terminated repeat groups is from 1 to about 3.

38. A hydrosilylated poly(vinyl chloride) composition comprising:
10 a poly(vinyl chloride) having at least one pendant oligomer per poly(vinyl chloride) chain, said oligomer derived from a diene having from 4 to 18 carbon atoms, and said oligomer being terminated with a silyl functional group.

39. A hydrosilylated poly(vinyl chloride) composition according to claim
15 38, wherein said composition comprises from about 1 to about 20 said oligomers per said poly(vinyl chloride) chain.

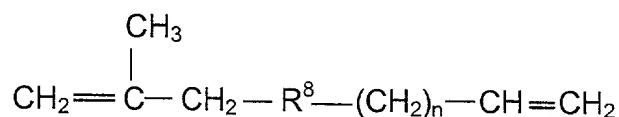
40. A hydrosilylated poly(vinyl chloride) composition according to claim
20 39, wherein the degree of polymerization of said poly(vinyl chloride) is from about 100 to about 1,500, and wherein said oligomer comprises from 1 to about 20 repeat groups.

41. A hydrosilylated poly(vinyl chloride) composition according to claim
25 39, wherein said poly(vinyl chloride) is a homopolymer of vinyl chloride or chlorinated poly(vinyl chloride), or a copolymer thereof, or a blend of a poly(vinyl

chloride) homopolymer or copolymer and a chlorinated poly(vinyl chloride) homopolymer or copolymer.

42. A hydrosilylated poly(vinyl chloride) composition according to claim 5 41, wherein said poly(vinyl chloride) is a homopolymer of poly(vinyl chloride).

43. A hydrosilylated poly(vinyl chloride) composition according to claim 10 42, wherein said oligomer is derived from a diene having the formula



15 where R^8 is an alkylene having from 0 to about 2 carbon atoms, and wherein n is an integer from 0 to about 10.

44. A compatibilizing agent comprising the poly(vinyl chloride) graft copolymer of claim 5.

20 45. A compatibilized blend comprising the compatibilizing agent of claim 44, and said blend comprising a poly(vinyl chloride), and a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

25 46. A compatibilizing agent comprising the poly(vinyl chloride) graft copolymer of claim 10.

47. A compatibilized blend comprising the compatibilizing agent of claim 46, and said blend comprising a poly(vinyl chloride), and a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

48. A compatibilizing agent comprising the poly(vinyl chloride) graft copolymer of claim 23.

49. A compatibilized blend comprising the compatibilizing agent of claim 48, and said blend comprising a poly(vinyl chloride), and a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

50. A compatibilizing agent comprising the poly(vinyl chloride) graft copolymer of claim 24.

51. A compatibilized blend comprising the compatibilizing agent of claim 50, and said blend comprising a poly(vinyl chloride), and a polyester, a polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations thereof.

52. A compatibilizing agent comprising the poly(vinyl chloride) graft copolymer of claim 25.

53. A compatibilized blend comprising the compatibilizing agent of claim
52, and said blend comprising a poly(vinyl chloride), and a polyester, a
polycarbonate, a polyurethane, a polyether, or a polyamide, or combinations
5 thereof.

10

15

20